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THE CONSEQUENCES OF PUBLIC UTILITY

REGULATION OF HOSPITALS

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# THE CONSEQUENCES OF PUBLIC UTILITY REGULATION OF HOSPITALS

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The health care delivery system is among the most extensively regulated sectors of the American economy. Professional licensure, hospital accreditation and certification, qualification requirements for federal subsidies, and governmental oversight of the third-party payor system constitute a complex set of institutional constraints on the structure and performance of the hospital industry [see Somers]. Beginning about a decade ago, serious demands have been made -- notably by some of the trade associations and professional societies in the industry -- to complete the circle of regulation by establishing administrative agencies, at either the state or federal level, to subject the industry to "public utility" regulation. These pressures have yielded results: most states have either established hospital regulation, or are considering legislation that would accomplish that end.

The purpose of this paper is to explore the causes and likely consequences of hospital regulation. Its point of departure is not the actual operation of the health care delivery system in the United States. Instead, the starting point is a growing body of literature in economics, law and political science on the operation and

performance of regulation generally. The first section presents some general observations on the factors that cause regulatory agencies to be established and that influence the outcomes of regulatory procedures. The second section describes some of the problems that seem to recur in regulated industries, and why these are probably inevitable consequences of imposing regulation. The third section applies these general theoretical and empirical observations to the specific case of the medical care delivery system and offers some conclusions about the relative merits of alternative methods of government intervention in the industry.

At the outset, several disclaimers must be made. This paper is not a defense of unrestrained private enterprise in medical care delivery. The nature of medical services probably requires some governmental interference in the market to counterbalance the difficulty most consumers would have in making informed, rational judgments about the effectiveness of alternative methods of treatment. The problem of an unfettered market is, furthermore, undoubtedly exacerbated by the fact that, due to insurance and federal subsidies, most medical costs are not borne directly by patients. This gives patients little incentive to consider costs in making decisions to obtain medical services -- the problem of "moral hazard" common to insurance systems in which the insurable risk is to some degree determined by decisions made by the insured party [see Arrow, Pauly]. Finally, even if these other problems could be neglected, society has every right to decide that certain goods and services -- education, food, decent housing, medical services -- are available to some minimum acceptable degree to all citizens, regardless of ability to pay.

The issue to be joined here is the choice among alternative arrangements for achieving society's objectives with regard to medical care. In particular, what aspects of medical care delivery are reasonably well served by a decentralized system relying on market incentives, and what other aspects are good candidates for some degree of insulation through centralized decision-making from normal market mechanisms?

### I. Theoretical Models of Regulation

The conventional wisdom on what regulatory authorities do and why they are established flows from the political attitudes of the turn-of-the-century progressive movement. According to the traditional view, the purpose of regulation is to protect society from abuses of market power and from other types of market failure that seem endemic to certain industries that supply key goods and services [see Wilcox]. American society is seen as largely homogenous, so that a clearly defined public interest exists and can be identified. The role of the regulator is to make certain that firms supplying services of great national importance serve this public interest: that market power or consumer ignorance is not used to enrich a relatively few businessmen while sacrificing the general welfare.

Regulatory institutions are argued to be necessary because in some industries competition cannot be relied on as a means for obtaining optimal price, output and quality. This can occur for any of several reasons: due to economies of scale, the most efficient size of a firm may be very large compared to the size of the industry (the "natural monopoly" case); wide, unpredictable fluctuations in supply or demand conditions within an industry may make it too risky to be attractive to many entrepreneurs unless they can earn abnormally high returns (the "ruinous competition" case); or the complexity of the product or service may be so great that consumers cannot reasonably be expected to make competent market judgments (the "consumer protection" case).

The forms of regulation that have evolved are enormously varied. "Public utility" regulation normally refers to controlling prices, profits and the entry and exit of firms from the industry. In the traditional conceptualization, this form of regulation is paired with the "natural monopoly" case: a firm is prevented from exploiting its position in a market in which there are none or few competitors by forcing it to serve more customers at lower prices and profits than it would otherwise freely choose. But public utility regulation is by no means limited to natural monopolies: interstate trucking, air transportation and pipelines are federally regulated, and in most cities so are taxicabs. Yet all are, at least in the markets that generate most of the industries' sales, certainly no less competitive than many unregulated industries. In fact, this puzzling circumstance of extensive regulation of at least rivalrous if not competitive industries is an important source of dissatisfaction with traditional theory.

Another source of criticism of the traditional explanation is its failure to explain why entry control is a necessary component of regulation. If one purpose of regulation is to suppress prices so that monopoly profits cannot be made, then firms should not find entry into regulated markets attractive. In particular, if prices no more than just recover costs and if a firm enjoys economies of scale, the best outcome an entrant could achieve would be to sustain losses until the entrenched firm went bankrupt and then just to cover costs (and never recover the losses incurred while two firms were operating). Nevertheless, firms persistently have tried to enter virtually every regulated industry -- not just the regulated competitive industries like trucking and taxi service, but also the so-called "natural monopolies," such as long-distance telecommunications and retail electric power distribution.

These dissatisfactions with traditional explanations of regulation have generated several new theoretical generalizations about its genesis and operation.

#### Capture Theories

The most radical theoretical proposition is that regulation is an institution proposed and supported by regulated industries as a mechanism for supplanting competition with a legal, enforceable cartel. This is the antithesis of the traditional view that regulation is established to protect consumers. Instead of an institution that forces monopolists or oligopolists to behave more or less as if there were competition, this theory pictures regulation as a means by which competitors can behave as if they were monopolists by making enforceable agreements to divide markets, reduce output, and raise profits.\* The distinction is made apparent by comparing

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\* In essentially contemporaneous studies, Kolko and MacAvoy, Economic Effects, first offered this theory as an explanation of the formation and development of the Interstate Commerce Commission. Recently Davis and North have further generalized the theory to incorporate all coercive governmental institutions that create wealth for some subgroup of the population.

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the explanations the two theories would have for the presence of regulation in any particular industry. For example, traditionalists would hold that the Federal Communications Commission regulates the interstate telecommunications industry (which, without doing any great violence to reality, is essentially comprised of a single firm, the American Telephone and Telegraph Company) because interstate telecommunications service is a natural monopoly, and hence

without regulation would have exorbitant prices. Those who favor the cartel explanation would contend that the FCC is a device for preventing competition in telecommunications, being controlled by the Bell system for the purpose of maintaining its monopoly position, prices and profits.

Of course, politicians do not legalize cartels without a quid pro quo. Seeking reelection, politicians exact a "price" from the regulated industry: campaign contributions, and the establishment of an oversight agency that, while sympathetic to the regulated firms, can put some bounds on the behavior of the regulated that prevents cartel practices from being a political liability (see Stigler). For example, a professional group will, according to the theory, gain the right to limit entry into its business, but only by accepting some responsibility for assuring minimum levels of competence among its members.

#### Political Economic Theory

A similar but more elaborate model of regulation, based upon some rather recent ideas in economics and political science, sees the relationship between regulators and regulated firms as more complex and dynamic. Like the traditionalists, those who subscribe to this political-economic theory assume that regulators try to serve some concept of the general public interest, rather than act as conduits for the interests of regulated firms. The problem regulators face is to identify this general public interest in a milieu in which information is uncertain, expensive and biased, and in a society which contains numerous groups whose interests are conflicting rather than harmonious.\*

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\* For a more developed explanation, see Noll, Reforming Regulation.

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The political economic theory focuses on the success indicators available to regulators to assess their own performance. To a private enterprise, the best indicator of success is usually the firm's long-term profitability, or perhaps its sales. To a district attorney, it probably is convictions won; and to a politician, continued reelection.

To a regulatory authority, several success indicators are available. First is the extent to which its decisions are overridden by appeals to the courts. Second is the response of legislators to agency decisions: do they pass bills that change an agency's decision, and do they react favorably to proposals to increase the authority and the budget of the agency? A third success indicator is the performance of the regulated industry. A cataclysmic service failure, such as the northeast power blackout of the mid-1960s, is likely to be blamed at least in part on the regulators, as is financial failure by several firms in the industry (such as has occurred in the railroad industry).

All three success indicators lead to serious biases in regulatory outcomes. Obviously, the fear of financial and service failures creates an incentive to promote the interests of the regulated firms. Healthy profits prevent financial catastrophes, and provide funds for rapid adjustments in industry operations if service should prove seriously inadequate.

More subtle is the bias inherent in the methods by which agencies collect information for reaching decisions and by which groups dissatisfied with agency decisions appeal to the courts or the legislature for a reversal. This bias arises from the costs of dealing with the regulatory system. Being represented in a regulatory proceeding is expensive. Proceedings can drag on for years when an important issue is at stake, and maintaining adequate

representation can involve heavy use of expensive professionals -- lawyers, engineers, economists, etc. Then, once a decision has been reached, appeals to the courts -- requiring more experts -- and to congressmen -- certainly made more effective by campaign contributions -- generate even more costs. An individual or an organized group (a firm, a trade association, a union) wishing to affect regulatory outcomes must be prepared to defray these costs of dealing with regulators, fighting court cases, and lobbying politicians. If a group is not already organized (for example, the nonexistent Association of Interstate Air Travelers), the costs of entering the regulatory process are even higher, for it must become organized in order to put together effective representation. In order for any group or individual to find entering the regulatory process worthwhile, it must expect its benefits to exceed these battle costs.

In general, the larger a group, the more expensive it is for the group to become organized to represent its members in an adversary process. And, in general, an individual is more likely to join a voluntary association if his stake in the service provided by the association is high and if the interest group of which he is a member is small enough so that his participation has an important effect on the success of the association [see Olson]. Thus, an adversary system is more likely to be entered by a small group with a large per capita stake in the issue at hand than by a large group with a small per capita interest.

Obviously regulated firms have a great deal at stake in regulatory proceedings, and they will choose to be effectively represented. A few customer groups who use a service extensively may also be organized and enter the process, such as a local government whose jurisdiction is about to be abandoned by a railroad or a

manufacturing trade association whose members' product is about to be subjected to a freight rate increase. The stake of the general public may be even greater than any of these groups, but it is diffused over a large number of unorganized individuals. To a single consumer, any one regulatory issue is likely to be far down the list of public concerns. A consumer is unlikely to cast votes or make campaign contributions on the basis of an ICC decision on railroad freight charges, or even to pay a few dollars to support a Washington lobbyist who will represent consumer interests before the ICC. Consequently, the information presented to a regulatory authority during its deliberations is likely to come almost exclusively from special interests. In addition, only these special interests will usually pose a serious threat to appeal the agency's decision to the courts or the legislature.

All of these factors cause regulators to devote most of their attention to the effects of their policies on regulated firms and other well-represented special interest groups. First, the information flowing to the agency will be systematically biased against unrepresented groups as a natural consequence of the adversary system. Second, to minimize the chance of being overturned by the courts or the legislature, the agency will be inclined to make decisions that somewhat favor represented groups. This reduces the chance that a decision will be appealed by giving a represented group something to lose if the outcome of the appeal is unfavorable. If more than one group is well-represented on a particular issue the agency will first engage in excruciatingly long proceedings to gather information and make a decision. This makes participating in the process even more costly, so that some groups may go bankrupt and drop out, and also postpones the day when the inevitable appeal

must be fought. When the decision is finally reached, the agency will seek a compromise between the well-represented groups, giving them all some stake in the decision, which reduces the incentive anyone will have to appeal, and improves the agency's ability to defend its actions as "fair."

Legislators play an important role in the regulatory process. The legislators, being elected, are seen by regulators as an important embodiment of the public will. Yet the contact regulators have with the legislature is generally restricted to a few members of subcommittees that oversee the agency's program and budget -- a relatively small proportion of the total legislature. Policies that contribute to the re-election of a few subcommittee members may not necessarily be those that could gain majority support in the legislature, but they may be instituted in any event through the informal relations between regulators and subcommittee members.\* To a regulator, no practical

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\* For a description of this process vis-à-vis the National Labor Relations Board, see Scher. More generally, see Wildavsky.

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distinction among pressures exerted by a legislator can be made on the basis of the legislator's motive, whether it be the improved efficiency of the regulated sector, the welfare of his constituents, or the profits of a contributor to his reelection campaign. In addition, the extent to which legislators can respond to special interest pleadings is greater in regulatory affairs than in the normal legislative process since the latter creates a more complete public record. For all these reasons, the subcommittee member is likely to be a very imperfect reflection of the balance among all interests in a regulatory issue, yet he is the only such indicator usually available to the agency.

## II. Empirical Observations on Regulatory Outcomes

The traditional and revisionist theoretical propositions outlined above have quite different implications for the actual performance of the regulated industry. The traditional view predicts that regulation will cause prices to be lower than they would be without regulation: that to some degree regulation will eliminate some of the inefficiency due to monopolistic business practices.

The theory that regulation is a device to create a cartel has the opposite prediction. A regulated industry would be characterized by higher prices, higher profits and less output than would prevail without regulation. The political-economic theory embellishes the cartel theory, making similar predictions when only the regulated industry is represented in the regulatory process, but going on to predict that in conflict situations the regulators will go to some lengths to strike compromises among various represented groups, even though the consequences of the decision may be inefficient industry operations and higher prices to consumers.

Although the verdict is far from complete, the economics literature provides some revealing findings about the accuracy of these predictions. Economists have analyzed demand and cost conditions in several regulated industries and numerous pricing and profit decisions by regulatory agencies. Except in the case of the regulation of natural gas prices at the wellhead, no depressing effect of regulation on prices has been found. For example, retail electric and gas prices do not differ between the group of states that regulates retail power and the group that does not [see MacAvoy, "Effectiveness," and Moore]. Airline fares in the intrastate

markets in California, where minimum price regulation has not been practiced, are less than half the fares charged in interstate routes of similar length and passenger density that are regulated by the Civil Aeronautics Board [see Levine]. Pipeline tariffs in regulated interstate markets are not only higher than in the unregulated intrastate markets, but apparently in some cases even somewhat higher than an unconstrained monopolist would charge [see MacAvoy and Noll].

Natural gas field prices are the main exception, being held considerably below the best estimates of the prices that would prevail in a competitive, unregulated market. But the explanation follows from the fact that the buyers of gas at the well-head -- the pipelines -- are themselves regulated. Here the relevant regulatory authority (the Federal Power Commission) is faced with the classic dilemma of arbitrating a conflict of interest between regulated groups. The response of the FPC to this dilemma was, first, to refuse to regulate the industry until forced to do so by congress and the courts, and second, to take years to make the initial decision as to how gas prices would be regulated. The resulting situation -- a reduction of prices below the cost of supplying new gas -- has not benefited consumers. To the contrary, prices set below the costs of new gas cause as troublesome inefficiencies as the artificially high prices charged by a monopoly. Below-cost prices have fostered uneconomically profligate use of the known reserves of the only fossil fuel that does not create serious environmental problems, have caused shortages that prevent new customers from gaining access to gas who would be willing to purchase it at a price high enough to justify opening new reserves, and have threatened existing customers with the

possibility that their principal home fuel supply will disappear if the growing gas shortage causes the supplies of their retailer to be cut off.\*

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\* This paragraph is a condensation of arguments offered by MacAvoy, "Regulation-Induced."

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Thus the empirical evidence clearly contradicts the traditional view of regulation. Whatever regulators do, they apparently do not in general reduce prices below the level that would otherwise prevail due to imperfectly competitive markets. At the same time, few studies have found any tendency of regulated firms to earn exorbitant profits. Returns to equity in regulated industries are for the most part below returns in other sectors of the economy; the common stock in regulated firms rarely has shown a long-term tendency to rise as rapidly as stock prices generally. These observations mean one of two things: either regulation performs no function at all (that is, it has no effect on prices or profits because regulated industries are sufficiently competitive to hold these to reasonable levels) or regulation succeeds not in lowering prices so that profits will resemble those in competition, but instead in raising costs so that the potential profitability of monopoly pricing is eroded away. A further examination of some other activities of regulators indicates that the latter is more likely to be the case.

#### Consumer Cross-Subsidization

One important regulatory policy that erodes the profit of monopoly pricing is the use of the price structure as an elaborate tax-subsidy scheme [see Posner]. Regulators will permit monopoly

pricing in profitable markets, but then force regulated firms to offer services in uneconomic markets that would be abandoned without regulatory intervention. Telephone service, electric power and transportation are all priced with this consumer cross-subsidization in mind.

As mentioned before, prices are substantially lower in the California intrastate airline market than for similar interstate routes regulated by the CAB. Yet interstate airlines do not earn especially high profits. One reason is that CAB has forced them to serve numerous cities that generate so little air traffic that to serve them is highly unprofitable [see Eads]. Thus, the air traveler flying between two large cities -- say, from Chicago to New York -- not only pays for the cost of his flight, but he also pays part of the costs of flying another passenger between two smaller cities [see Keeler].\* The CAB, like other regulatory agencies, has justified

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\* Several years ago a regional air carrier ran advertisements in the New York Times that began with the highly relevant query: "What is Ozark doing in New York?" The answer, of course, is that the CAB was trying to find a way for Ozark to make up the losses from being in Joplin and Fort Leonard Wood.

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consumer cross-subsidization on the grounds that the "national interest" requires that as many cities as possible be provided airline service, and that this is a more important objective than running an efficient national airline system. Critics of this policy respond that passengers on profitable routes, having no greater interest than does society generally in subsidizing service to small towns, should not be forced to bear the entire burden of the subsidy, assuming



it is justified. They also question whether subsidies should be paid, pointing out that nowhere in the CAB's legislative mandate is it directed to maximize the number of cities offered service.

The historical development of cross-subsidization by the CAB illustrates the interplay between regulatory policy-making and interest groups. Initially, in response to pressure from representatives of less populous areas, Congress favored service to cities generating little traffic, and provided subsidies, both indirectly through mail contracts and directly through the CAB, to achieve that end. The airlines also favored the maintenance of unprofitable routes since regulation limited their profits to a fixed "fair" return on investment. The more routes flown, the greater the investment and allowed profit of an airline, and the better the prospects for future growth, investments and, hence, profits. As the nation's population became more concentrated in large urban centers, Congress looked with decreasing favor on the airline subsidy, directing the CAB to work towards eliminating it. Yet many congressmen wanted service to their constituents in small cities to continue, as did the local governments and major businesses in these areas as well as the airlines. Cross-subsidization satisfied all these groups, at the expense of the passenger on major trunk routes who was unorganized and unlikely to respond to a hidden tax on air fares (from whence came the cross-subsidy) by making campaign contributions, casting ballots in congressional elections, or entering court appeals to bend policy more in his favor.

### Producer Protection

The price structure can also be used by regulators to subsidize certain producers as well as particular groups of consumers. Regulatory agencies often set prices designed to prevent low-cost firms or industries from capturing business from high-cost competitors. Most often this occurs when alternative technologies have differing costs for each of several categories of service and the regulators decide not to let the firms employing these technologies specialize according to the service that each technology can offer with greatest efficiency.

Surface transportation is an interesting case in point [see Friedlaender]. Railroads, water carriers and trucks usually face entirely different costs for providing a given service in a given market. If boats, trucks and trains were to be used to best advantage, all would charge a price related to cost for each service, and shippers would then choose among transportation modes according to their relative efficiency. Yet the Interstate Commerce Commission, in an attempt to preserve for each mode some of the market for each type of shipment, often sets prices at the same level for all modes and requires that firms as "common carriers" accept shipments at those prices. Sometimes the price is below the cost of the high-cost mode, so that firms are forced to accept shipments that do not cover costs even though another firm using a different transportation technology could earn a profit on the same shipment at the same price. Sometimes the price is high enough so that all three technologies can cover costs, including the technology with the highest cost.

This practice is defended on the grounds that the national interest demands a "balanced" transportation system, giving as many shippers as possible a choice of transportation modes. The concept of unregulated monopolization of a market by a particular firm is

implied to be equivalent to the concept of regulated monopolization of a market by an industry. For instance, a price decision will be said to prevent monopolization of a service by trucks. But were it not for regulation trucking would be a competitive industry. Furthermore trucking is regulated which, in theory at least, is supposed to afford protection against monopolization in any event.

The argument against this policy is simply that regulation prevents shippers from capturing the benefits of a lower-cost service because it breaks the connection between cost and price. Even if the national interest does require continuation of a service or preservation of a firm that customers do not want to patronize, the burden of maintaining it should not fall on shippers who favor services that are profitable, but upon society generally.

#### Influencing Technological Change

By controlling prices, profits and entry in an industry, regulatory agencies also control the rate and pattern of technological change. In particular, regulatory agencies have delayed or prevented many beneficial technological innovations, and have promoted or permitted many others that were not justified [see Capron].

Thwarting a promising innovation frequently occurs when a technological change threatens to shift substantial business from one regulated firm to another or to cause the profits of a regulated industry to decline. The Federal Communications Commission provides several examples of this behavior: the long-standing prohibition (recently reversed) of foreign attachments -- i. e., devices made by someone other than AT&T -- to the switched telephone network; the decade-long delay in authorizing a domestic communications satellite; and the restrictions on the development of pay-television and cable

television [see Noll, Peck and McGowan]. In all cases the new technology promises to offer new services that consumers have demonstrated a willingness to pay for, and old services at a substantial reduction in cost. Yet in all cases those who would own and profit from development of the new technologies differ from those who own and profit from the old: foreign attachments and domestic satellites threaten the Bell monopoly, pay-TV and cable TV threaten the highly profitable tight oligopoly enjoyed by VHF television stations in large cities as well as what remains of the motion picture and live theatre industries. Even though neither AT&T nor VHF broadcasters would be forced out of business by a more permissive policy, the fact that they would be damaged due to the loss of some of their insulation from competition is regarded as sufficient cause by the FCC to prevent, delay or severely limit an economically warranted technological advance. Meanwhile the resources of the potential entrants for dealing with regulators, the Congress and the courts are far fewer than those of the entrenched firms, partly because they have no profitable existing markets to finance their operations and partly because many of those who would profit from new technology have yet to emerge.

Transportation regulation also abounds with similar examples. For instance, the piggybacking case illustrates a penchant for tinkering with technology by the ICC [see Gellman's paper in Capron]. The ICC's Rail Form A specifies the minimum revenue that a railroad flatcar must earn when fully loaded. When the railroads introduced piggybacking, or carrying truck freight on a railroad flatcar, the ICC insisted that the piggyback flatcars satisfy the Rail Form A revenue requirements. This decision forced the railroads not only to charge a higher price for piggybacking than they would otherwise have levied, but also to

adopt an inferior method of providing the service. In providing piggyback service, the railroads faced a two-dimensional technical decision. The first concerned the length of the flatcar: should it be large enough to carry one or two truckloads? The second concerned the part of the truck to be carried: should the entire truck-trailer be carried (including the wheels) or just the freight container? The lowest-cost alternative for most railroads was to carry only the container and to use short flatcars that could carry only one truckload. Securing a container to a flatcar is easier than securing a wheeled trailer, and the shorter car is more stable on steeply banked roadbeds, can manage the sharpest curves in tunnels without scraping the walls, is compatible with normal railyard switching equipment, and requires no excess capacity if an odd number of trucks is to be carried. But by insisting that Form A rates be used, the ICC prevented the low-cost method from being adopted, since the Form A revenue requirement for a one-truck car was far too high to induce truckers to use piggybacking. Because the price per truck on a double-truck car could, according to Form A, be half the rate on a single-truck car, the railroads were forced to adopt the former despite the fact that to do so necessitated redigging tunnels, rebanking curves, and redesigning switchyards. And since the price on a flatcar transporting whole trailers could not differ from the price on flatcars transporting only the freight container, railroads were legally barred from giving the trucking industry a financial incentive to use trucks with removable containers, even though the cost savings from flatcars for removable containers were more than enough to make up for the extra costs of making trailer containers removable. Thus, the full cost advantage of the piggyback innovation could not be captured, and that which was

captured could not be fully reflected in prices. This served partly, but not wholly, to inhibit the innovation. Rails did capture some long-distance traffic from trucks and waterways, but less than was economically warranted by the economics of the innovation. And in the process, the distribution of business and profits among transport modes was upset less than would otherwise have been the case. The main loser was the consumer, since commodity prices subsequently included unnecessarily high freight costs.

Another source of the reluctance of regulators to permit innovation arises from the uncertainty inherent in change. A new technology may be expected to produce great benefits, but usually there is a chance that it can cause a deterioration in some aspect of service. The agency faces an asymmetric penalty to making mistakes in such circumstances. Preventing a technology that would have been worthwhile may generate criticism, but at least the criticisms will be based on conjectural information on the uncertain potential of the new technology. And at least some of those who would have benefited from the technology will not be a source of criticism since they will not have realized their potential gains. On the other hand, adopting a technology that is not successful leads to the more informed, diverse criticism of hindsight. The agency will share the blame for service failure, and will be criticized by those who lost business because the new technology was adopted. Furthermore, associated with even an unsuccessful technology that is adopted will be some firms and workers whose welfare depends on its continued use. These groups represent one more voice to be reckoned with by the agency.

These asymmetric costs of mistakes give agencies an incentive to exercise excessive caution when dealing with technological innovations. They will tend to block or to retard innovations that threaten entrenched interests. Even when the new technology is proposed by entrenched interests and is not expected to redistribute income against any of the agency's well-represented clients, they will tend to delay decisions in an attempt to acquire more information and thereby reduce uncertainties about the possible detrimental consequences of an innovation.

#### Regulation-Induced Inefficiency

The presence of regulation, by altering the incentives faced by firms, also damages the efficiency of their operations. First, the profit ceiling imposed upon regulated firms is usually based upon costs. In trucking, for example, firms may earn profits up to a fixed proportion of total costs, while in telecommunications firms may earn profits equal to a fixed percentage of the depreciated book value of their capital investments. Of course, this means that a firm can earn greater profits only if it incurs greater costs, which blunts the normal business incentive to produce output at the minimum possible expense [see Averch and Johnson].

Second, the policies of regulators that force firms to operate in uneconomic markets, that protect inefficient firms from competition, and that retard technological developments that threaten to redistribute business among firms create an atmosphere among entrepreneurs that is not conducive to innovation, creativity and efficiency. Since the second world war, the railroad industry has been roundly criticized for poor management, and certainly judging from developments in rail transport in Europe and Japan, the criticisms

appear to have some foundation.

The decline in railroad management followed shortly after the ICC was given the responsibility to regulate trucking. In the absence of regulation, the expected consequence of the technological development of trucking in the 1920s and '30s would have been some specialization of services by each mode and some retaliatory innovation by the rails. But the ICC's policies of preventing truck-rail competition and of forcing the rails to continue shipping some commodities and serving some communities after the rise of trucking had made these inefficient for rail service must have played some role in undermining the entrepreneurial spirit in the railroad business.

Finally, attempts to regulate competition inevitably lead to a "tar-body" effect of increasingly complex regulatory constraints [see McKie]. When regulators protect a weak competitor or generate extra profits for cross-subsidization in a competitive market, they generally succeed more in changing the arena of competition rather than in preventing it. Disallowed from competing through price reductions, firms will turn to improvements in service quality -- improvements that, without price controls, consumers would not be willing to pay for -- as a mechanism for obtaining more customers. In the airline industry, for example, high prices on profitable routes have led to more frequent flights (with fewer passengers per flight) and increases in in-flight services [see Eads' paper in Phillips]. Since these service improvements increase costs, they erode the profits for cross-subsidization. To preserve unprofitable routes, the CAB must impose restrictions on service competition -- by arbitrating mutual reductions in flights among competing airlines, by insisting that airlines charge for movies and alcoholic beverages

that initially are given away, and even by defining the maximum square inches of a tourist-class seat. And, as each new avenue of competition is closed off, creative businessmen discover another, the "piano bar" being the latest. This unending sequence of innovative competition and regulatory response is the counterpart in regulation of Brer Rabbit's uncommunicative, sticky stranger.

#### The Costs of Regulation

The preceding discussion reveals what regulation does and does not do: generally regulators do not prevent monopoly prices. In fact to some extent they encourage monopoly prices as a kind of sales tax to finance "good works" by regulated firms in the form of subsidies to uneconomic services, firms and technologies. (We can all give thanks that the ICC was not established in the 1860s, or else we probably would still receive some of our mail by Pony Express.)

The discussion as yet contains no indication of the magnitude of the inefficiencies attendant to regulation. Some work has been done in this area, although the results are by no means complete.

First, the costs of operating the major federal public utility regulatory agencies -- the SEC, the FCC, the ICC, the CAB and the FPC -- probably approach \$1 billion annually. The agencies have budgets of about \$25 million each, and the firms that are regulated probably spend several times as much in dealing with the agencies, the courts and the congress on regulatory matters. Much of this expenditure is for pro forma, unproductive activities [see MacAvoy, "Formal Work-Product"].

Second, several estimates indicate that the costs of regulation in terms of the losses in efficiency of regulated firms is even higher than the direct cost of running the institution. For example, ICC

regulation of surface freight transportation has been estimated to cost \$5 billion annually, due to the shift from lower-cost to higher-cost modes caused by inconsistent cost-price relationships among the modes [ see Moore's paper in Phillips]. The costs of an irrational pricing structure in air transportation probably are of a similar magnitude [ see Keeler]. Thus, the unnecessary costs created by regulators are not minor; indeed they may account for twenty-five to fifty percent of the revenues of regulated firms.\* It is at least open to debate whether

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\* See Green for a more complete survey of the literature examining the costs of regulation.

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the American public, if given the opportunity, would cast a favorable vote on the proposition that the stability and uneconomic services resulting from regulation are worth this cost.

The inefficiencies attendant to regulation provide an explanation for why regulators are compelled to control entry -- an explanation that, as remarked before, eludes traditional theory. If prices in some regulated markets produce profits above those that are necessary to keep a firm in business in the long run so that cross-subsidies can be paid, inefficient firms can be preserved, regulation-induced costs can be covered or inferior technologies continued in use, then regulators must control entry. High profits, or the potential for profit with more efficient operation, will attract new firms. Their uncontrolled entry would lead to a loss of business by the firms internally subsidizing losing markets, or for some other reason favored by the regulators. To protect inefficient operations and cross-subsidies, further division of the market through entry must be prevented.

### III. The Implications for Hospital Regulation

Quite obviously, the preceding arguments hardly lead to happy conclusions about the consequences of public utility regulation of hospitals. The two principle conclusions to be extracted from the above discussion are: (1) Regulation tends to protect regulated firms whenever competition or technological change threatens established positions within the industry, and (2) Regulators see the purpose of the price structure as providing a mechanism for taxing some groups and subsidizing others, rather than as a mechanism for offering incentives to buyers and sellers to rationalize choices among inputs, outputs and technologies. Thus, if the pattern extends to public utility regulation of hospitals, the following results could be expected to obtain: (1) Resistance by regulators to innovations in medical care delivery systems (such as prepaid group health plans) regardless of their merits; (2) Substantial consumer cross-subsidization and producer protectionism in the price structure; and (3) Persistent upward drift in prices towards monopolistic levels in order to finance subsidies and inefficiencies created by regulation.

The preceding description is reminiscent of the current situation in the hospital industry. The medical economics literature is replete with claims that existing regulatory practices in the industry produce all of these results. Professional licensure and hospital certification institutionalize existing medical technology, in part because they prevent using different combinations of inputs to provide a given service and in part because medical malpractice judgments are to some extent based upon the standards for licensure and certification [see Carlson and Elwood, et al]. Similarly, the straightforward cost-reimbursement system by which third-party

payors, particularly Blue Cross and the federal government, determine how much hospitals should be paid eliminates financial incentives to be efficient or to introduce cost-saving innovations [see Somers].

Those who favor even greater regulation of hospitals argue as follows [see Priest]. First, the failures of regulation in other areas are irrelevant to the hospital case because hospitals are almost exclusively nonprofit institutions. Second, regulation is necessary because the unusual relationships among hospitals, doctors, patients and payors prevents normal market incentives from working. Third, the problems of oversensitivity to regulated firms discussed above are said to be mitigated by the presence of strong, well-organized groups on the other side of the market. Fourth, the failures of the incomplete, weak regulation that hospitals now experience are due to the fact that regulation of hospitals has not been complete enough and has not been enforced by strong administrative agencies.

#### Nonprofit Status

The nonprofit status of hospitals is, in reality, not of major consequence.

First, the nonprofit status of hospitals is not unique. Nonprofit, governmentally-owned enterprises are common in the electric utility and local transportation industries. Although nonprofit firms tend to charge somewhat lower prices, this is largely explained by their favored tax status. The main beneficiaries of nonprofit status appear to be employees, since nonprofit firms apparently pay higher wages.\* Nonprofit firms are also somewhat less prone to practice

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\* See Hamermesh and Pashigian. Feldstein also finds a causal relation from prices and profits to wages and salaries among nonprofit hospitals.

price discrimination [see Pashigian and Peltzman]. Nevertheless, these differences among profit and nonprofit enterprise in other regulated industries are small.

Second, most of the inefficiencies due to regulation arise from the policies of the regulators, not of the regulated firm. Cross-subsidization, producer protection, and overly cautious attitudes about innovation all are aided and abetted, if not initially conceived, by the regulators.

Third, the profit-nonprofit distinction probably has far less impact on most operating decision than operators of nonprofit institutions suppose. The profit-orientation assumed to characterize private enterprise is a shorthand generalization of something far more complicated. A firm, like any other organization, only has goals to the extent that the people who control it have goals. The profit orientation of a firm reflects the profit orientation of equity holders, which is to say that those in control of an institution adopt policies in their own interest. A nonprofit institution is also run by individuals interested in their own welfare.

Since the types of people who control nonprofit institutions may differ from those who run profit-making enterprises, nonprofit institutions do behave differently in some circumstances than profit-oriented ones.\* But this behavior is not crucial as far as predicting

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\* K. Davis investigates the implications for hospitals of alternative behavioral assumption.

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the consequences of regulation is concerned. Some studies have examined the proposition that hospitals are organized to some degree to benefit doctors [see Pauley and Redisch, and Perrow]. If hospitals

are a "doctors' cooperative," their nonprofit orientation is a legal reality but practical fiction, and hospital regulation will be essentially regulation of a profit-oriented group of doctors.

Other studies have postulated different motives for those who operate nonprofit institutions. For the most part, these differences are over how the returns from profitable activities are to be spent. A profit-seeking organization will use these returns to pay equity holders or to reinvest in other profitable activities. A nonprofit organization will usually spend these returns on unprofitable activities: on unnecessary expenditures (such as on capital investments that are monuments to the officers), on providing unremunerative services (the counterpart to cross-subsidization in a regulated firm), on improving product quality beyond the level that its customers are willing to pay for, or simply on rising costs resulting from paying too little managerial attention to cost-efficiency [see Lee, Feldstein and Newhouse]. What is unlikely to differ significantly between profit and nonprofit enterprises is the price of a profitable service. In fact, the nonprofit enterprise, to the extent it operates in an unregulated and uncompetitive market, has a tendency to engage in the same inefficient practices that regulation creates for the profit-making institution.

The desire for stronger regulation on the part of hospitals is certainly consonant with the manner in which nonprofit institutions tend to exhaust their profits. Both nonprofit and for-profit institutions seek to protect themselves from competition, but for different reasons. To the for-profit institution, insulation from competition increases the profitability and reduces the financial risk of investment in the industry. To the nonprofit institution, the additional revenue-earning potential of insulation from competition expands the financial resources

for doing "good works." To the indigent, the victim of an exotic illness that is expensive to treat, and the trustee wishing to construct the modern version of a pyramid in his own name, the uses of profits by the regulated nonprofit hospital have enormous value, and certainly a legitimate case can be made that nonprofits make better use of monopoly prices than do profit-making institutions. But for the broad range of hospital services, both types of institutions yield similar results: monopoly prices in excess of costs to the extent that market conditions permit. And with regulation, the outcomes become even more similar as the profit-making institution is induced by the regulators to engage in the same type of internal tax-subsidy policies and inefficiencies that tend to characterize the operations of the nonprofit institution.

#### Consumer Powerlessness

Regulation is also said to be needed because it is necessary to deal with the unusual phenomenon in medical care in which the patient receives the service, the doctor chooses the hospital, and the insurer pays the bill. The basis of the argument is the observation that nowhere in the system is an individual decision made with costs in mind [see Arrow and Reder]. Consequently, runs the argument, regulation is necessary to overcome the absence of an incentive for cost-reduction.

The problem with this argument is that the conclusion is a non sequitur. Nowhere in our experience with regulation is there the slightest indication that regulation can instill more attention to costs than regulated industries would have on their own.

The interest in applying increasingly tighter controls on entry into the hospital industry provides an interesting point of departure to illustrate the problems with using regulation as a mechanism to control costs. Obviously, rapidly expanding capacity and dwindling occupancy rates are not, by themselves, the objectives of hospital administrators. They reflect individual decisions not to maximize beds, but to provide medical services at financially remunerative prices. The persistent overinvestment in facilities is based upon the belief that in the long run hospitals will not fail financially. This belief is surely going to be reinforced the greater the extent to which third-party payors dominate the market and government intervenors determine prices through strict cost-reimbursement formulas.

Suppose in this milieu a strict prohibition on further expansion of capacity is enforced. This in no way changes the motives and the financial environment in which former decisions to expand capacity had been made. It simply means the beds can no longer be a major resultant of the interaction between these motives and financial conditions. The inadequate incentives for cost-reduction and rational pricing would remain, as would the potential to use the price system to collect capital for other unnecessary expenditures besides unused beds. Controlling the number of beds will simply turn the attention of hospital administrators to other, perhaps even less desirable expenditures. Thus is the regulatory tar-baby conceived. Regulators will find their attempts to force efficiency upon a recalcitrant industry as leading only to ever more detailed and expensive regulation, prohibiting a lengthening string of unnecessary expenditures, but with no apparent long-run success in dealing with the general problem of rising costs.



### Fair Representation

Another pro-regulation argument is that those who purchase hospital services are well-enough organized to provide a countervailing force to hospitals before an administrative agency. Certainly this argument is not without substance. Organizations such as Blue Cross, private insurers, the Social Security Administration, and other major payors are organized to plead their cases before a regulator. Their presence, according to the theoretical arguments advanced above, should make regulatory outcomes more of a compromise than if regulators only talked to representatives of hospitals. Unfortunately, this does not mean that regulation will produce a better outcome than even the present system.

The position of those not represented by a third party payor will probably be weakened under regulation. Today such patients face a multiplicity of hospitals with some degree of independence in making decisions on prices and service quality. Although hospital "shopping" is admittedly difficult, it nevertheless is possible for some consumers. With regulation, decisions on prices will be centralized, to be decided in an adversary process in which these patients are unlikely to be represented. Whatever the value of the minimal shopping and bargaining among hospitals that now takes place, it will be lost under regulation.

Probably more important is the change that regulation will make in the bargaining relation between major third-party payors and hospitals. Here the importance of independent decision-making among hospitals is significant, for third-party payors can deal with hospitals individually and provide some incentives for cost reduction if they so choose. Regulation allows hospitals to bargain as one before the regulatory authority, thereby avoiding the possibility

that a more efficient hospital will strike a special bargain that undercuts the position of other hospitals. In fact, one reason advanced by hospitals for the necessity of regulation is the ability of Blue Cross and the Social Security Administration to obtain "preferential" prices [see Cohen]. The hospitals expect that a regulatory system that allows them to bargain as a unit will produce a better result for hospitals than does a decentralized system. Further, they see a possibility for what appears to them to be a desirable cross-subsidy: charging equal prices to insured and uninsured patients even though the latter are more likely to default on payments and, therefore, are more costly to serve.

Finally, the interests of insured patients and insurers do not necessarily coincide, which makes third-party payors imperfect representatives of the interests of even insured consumers. Health insurance does not pay the same proportion of all hospital costs, so that insurers will benefit from cross-subsidization of highly insured treatments by less-insured ones. Furthermore, as long as profit-oriented insurance companies can forecast accurately, they are not necessarily affected adversely by price increases. The demand for hospital insurance depends upon the financial risk of facing hospitalization without coverage. Rising hospital prices cause insurance rates to rise, but they also increase the risk of self-insurance. Depending upon the consumer's degree of risk aversion, and the sensitivity of his demand for hospital services to prices, rising hospital fees could lead to an increased demand for insurance, thereby benefiting insurers. And in states that regulate insurance by requiring that underwriting profits have some fixed relation to premiums and reimbursements, rising hospital costs can be the only mechanism, short of epidemic, for increasing insurance company profits.

### Regulatory Failure

That regulation of the quality of health care has failed to stem inflation in hospital costs\* and to maintain satisfactory standards of care is generally agreed. That this justifies further regulation is dubious.

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For a while, the price control programs initiated in 1971 moderated inflation in the entire economy, including hospital care. This experience has virtually no relevance to public utility regulation: price controls are temporary, are applied across the board to all industries (insulating the administrators from much of the special-interest pressures affecting regulators), and are administered by an agency having no responsibility to maintain stability in any particular industry. For a discussion of the relation between price controls and public utility regulation, see Noll, "Price Commission."

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The preceding arguments suggest that a central cause of the problems besetting the hospital industry is the set of institutional arrangements insulating hospitals from market incentives. Imposing public utility regulation upon the existing system is probably the only step that could be taken to make the industry even more insulated from incentives to be efficient. Any system that separates the payor from the recipient of service will be prone to inefficiencies; imposing regulation on such a system simply adds one more group whose tastes for uneconomic services and inefficient operations must be served.

Abandoning regulation is not necessarily equivalent to abandoning medical care to the quacks. If the problem with a medical care delivery system based upon cost incentives (e.g., extensive coinsurance or prepaid group health) is a tendency to utilize consumer

ignorance to provide ineffective, low quality service, a more sensible approach is to control performance directly. Various licensure, certification and accreditation regulations in theory are designed to achieve this, but they exact too high a price in preventing innovation and in entrenching the power of specific professional groups. More effective is the regulation of health outcomes in a more consistent, comprehensive and scientific manner than the medical malpractice suit [ see Havighurst].

Generally speaking, regulation to impose minimum performance standards is more successful than public utility regulation: airlines are safe and growing safer, despite the inefficiencies in their pricing and operations; emissions from automobiles and smokestacks are falling rapidly. This is not to say that minimum standard regulation is always sensible, efficient and effective, but merely that some evidence can be found that it can produce noticeable results consistent with its aims.

Experience indicates that society does relatively better by centralizing quality decisions while relying upon individual, decentralized decisions, based upon market incentives, for achieving cost efficiency. Imposing public utility regulation on the present system moves in precisely the wrong direction: it relies upon individual decision-makers or homogeneous, self-interested professional groups to make decisions on the quality of service in an arena in which the consumer has no reasonable expectation of being able to judge quality, but it relies on cumbersome, centralized decision-making to promote efficiency. A necessary component of promoting efficiency is introducing the threat that a bad decision will lead to financial difficulties; and a necessary component of assuring that minimum quality standards are met is to make sure that someone representing the consumer's interest has a role in passing judgment on the seller's decisions about quality. It is

difficult to conceive of an institutional framework more removed from this latter model than one in which the present system is amended by grafting on public utility regulation.

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